



Theme Implementation Plan for Transportation Theme

U.S. Department of Transportation

Federal Geographic Data Committee (FGDC)

10/31/2017



Transportation Theme FY17 Implementation Plan Report



Overview

As part of meeting the requirements under [OMB Circular A-16 Supplemental Guidance](#) and [OMB Circular A-16 Appendix E - NGDA Data Themes, Definitions, and Lead Agencies](#) for NGDA Portfolio Management and NGDA Theme Management, NGDA Themes Leads for a Theme, in coordination with associated NGDA Dataset Managers, have developed Theme Strategic Plans and corresponding implementation plans for each Theme in the NGDA Portfolio. This report provides information on implementing the goals, objectives, and actions outlined in the Theme's Strategic Plan (link below). The report includes information on Theme Personnel (Table 1), National Geospatial Data Asset (NGDA) Datasets associated with the Theme (Table 2), and the human and financial resources needed to manage the Theme (Table 3). Table 4 provides a status update on progress made in the current reporting period toward meeting Theme Strategic Plan goals and objectives. Table 5 provides details on the Theme Implementation Plan.

Theme Strategic Plan

<https://communities.geoplatform.gov/ngda-transportation/wp-content/uploads/2017/12/Transportation-Theme-Strategic-Plan-FY2016.pdf>

Theme Personnel

Theme personnel play a vital role in the operation and maintenance of a Theme. They are “individuals who provide interdepartmental leadership and coordination at the NGDA Theme level. They work with component NGDA Dataset Managers to develop standards and provide guidance. The NGDA Theme Lead, or designee, chairs the NGDA Theme's Thematic Committee and manages the annual process of providing NGDA Dataset collaboration and funding recommendations to the FGDC Steering Committee for those NGDA Datasets within their NGDA Theme. Additionally, the NGDA Theme Lead reports to the Executive NGDA Theme Champion and the FGDC Coordination Group on the NGDA Theme's activities and investments (both current and planned).” Table 1 provides a summary of current Theme Personnel followed by Table 2 that lists the NGDA Datasets that comprise the Theme.

Theme Personnel	
Theme Lead:	Raquel Wright
Theme Lead Agency:	USDOT
Executive Theme Champion(s):	TBD
Executive Champion Agency:	USDOT

Table 1. Personnel Involved in Theme Management.

Transportation Theme NGDA Datasets	NGDA Agency
Airports	USDOT FAA
Runways	USDOT FAA
Intermodal (Freight)	USDOT BTS
Roads	FHWA & DOC - Census
2010 Census Traffic Analysis Zone (TAZ)	DOC - Census
Rail Lines	USDOT FRA
Rail Nodes	USDOT FRA
Inland Electronic Navigational Charts (IENC)	DOD - USACE
Locks	DOD - USACE
Ports	DOD - USACE
Waterway Lines	DOD - USACE
Waterway Nodes	DOD - USACE
Intermodal (Passenger)	USDOT BTS
Bridges	USDOT FHWA
Transit (Lines)	USDOT BTS
Transit (Stations)	USDOT BTS

Table 2. NGDA Datasets within the Theme.

Human and Financial Resources Needed for Theme Management

The following table provides an estimate of resources needed for managing this Theme. It includes different activities, the roles that support them, as well as an estimated decimal Full Time Equivalent (FTE) and FTE grade. This estimate does not include the resources required for the agency to develop and maintain the NGDA Dataset(s) that make up the Theme to meet the agency's core mission requirements.

Reporting Period for Human and Financial Resources¹: 10/2016 – 9/2017

Description of Theme Management Activities	Role (Theme Lead, co-Theme Lead, NGDA Coordinator, other as specified)	FTE ²	FTE Grade
NGDA Theme management (e.g., attend meetings, review NGDA documents, develop Theme Strategic Plans, etc.)	Theme Lead	.25	14

Table 3. Human and Financial Resources Needed for Theme Management.

¹ Reporting period should align with October 1 – September 30 and be submitted by October 31.

² A full-time employee was available a maximum of 1952 hours during the inclusive period of October 1 – September 30; assuming a Monday-Friday schedule with 8-hour workdays and not counting Federal Holidays. The FTE was determined by taking actual number of hours worked in support of Theme Management divided by 1952 hours, rounded to the nearest 0.01.

Progress against Goals and Objectives

The following table shows the progress status made toward achieving the Theme's Strategic Plan goals and objectives since the last reporting period. Status categories include 'Not Started' for those activities that have not gotten underway in the reporting period; 'In Progress' for those activities underway which will continue into the next year; 'Complete' for the activities finished, or 'Recurring (completed for the current reporting period)'.

Summary of Goals and Objectives undertaken during 2017	Status
Goal 1: Facilitate the Sharing of Transportation Geospatial Data	
Objective 1.1: Provide Web Feature Services for the National Geospatial Data Asset (NGDA) datasets of the Transportation Theme.	In Progress
Objective 1.2: Leverage the Geospatial Platform.	In Progress
Goal 2: Ensure the Effective Development of the Transportation NGDA Datasets	
Objective 2.1: Continued development and support of the All Roads Dataset NGDA and its related Address Range-Feature Name Relationship File and the Address Ranges Relationship File NGDAs.	In Progress
Objective 2.2: Continued development and support of the Rail NGDA.	In Progress
Objective 2.3: Continued development and support of the Airports and Runways NGDAs.	Recurring (completed for 2017)
Objective 2.4: Continued development and support of the Transit NGDA.	Recurring (completed for 2017)
Objective 2.5: Continued development and support of the Bridge NGDA.	In Progress
Objective 2.6: Continued development and support of the Intermodal Facilities NGDA.	In Progress
Objective 2.7: Continued development and support of the Navigable Waterway, Ports, Locks, and Inland Electronic Navigation Charts NGDAs.	Recurring (completed for 2017)
Objective 2.8: Continued development and support of the Traffic Analysis Zones NGDA.	Recurring (completed for 2017)
Goal 3: Convene Leadership of the Transportation Geospatial Community	
Objective 3.1: Lead and participate in the development and coordination of national and international standards applicable to the transportation geospatial community.	In Progress
Objective 3.2: Lead the transportation geospatial community and advocate shared resources.	Recurring (completed for 2017)

Table 4. Theme Implementation Plan Progress Status.

Theme Implementation Plan

The following table provides details for achieving Theme Strategic Plan goals and objectives over the multi-year planning period. These include roles and responsibilities, specific actions, milestones, performance indicators and projected completion dates.

Goal 1: Facilitate the Sharing of Transportation Geospatial Data				
Objective 1.1: Provide Web Feature Services for the National Geospatial Data Asset (NGDA) datasets of the Transportation Theme. Agency and/or Stakeholders Involved: USDOT Anticipated Outcome: More current data available to all through WFS. Cost savings through reduced duplication of effort.				
Actions <i>(Describe discrete activities)</i>	Milestones <i>(A significant change in development with associated date)</i>	Performance Indicators <i>(A metric to assess progress of the action)</i>	Action Responsibility <i>(Agency, individuals, and/or groups leading the action)</i>	Projected Completion Date <i>(FY)</i>
1.1.1 Develop, maintain, and publish WFS for the NDGA datasets of the Transportation Theme.	Develop WFS – Summer 2017 Optimize WFS – Fall 2017 Work with partners to take ownership of their WFS - Ongoing	Number of NDGA datasets with WFS Number of optimized WFS Number of dataset owners originating WFS	BTS NTAD Manager	2019/Q4
1.1.2 Register the WFS on the Geospatial Platform/Clearinghouse.	Register WFS - December 2017	Number of registered WFS on Geospatial Platform	BTS NTAD Manager	2018/Q2
1.1.3 Market the WFS to the stakeholder community and encourage feedback and partnerships.	Conduct Webinars - ongoing Conduct Listening Sessions - ongoing Attend Industry Events - ongoing Employ Social Media - ongoing	Number and type of outreach events held	BTS OSAV Director	2019/Q4

Agency and/or Stakeholder	Activity through FY 2019, Q4			
USDOT BTS	<p>1.1.1 The Bureau of Transportation Statistics (BTS) will dedicate resources to create, update and maintain Open Geospatial Consortium (OGC) Web Feature Services (WFS) and ESRI Web Feature Services for all completed Transportation NGDA layers that are part of the National Transportation Atlas Database(NTAD). The BTS will optimize and tune all of the NTAD NGDA WFSes, geodatabases and other geospatial data sources to allow for rapid data return and rendering with no visible latency by internal and external users. This may involve vector tiling or web tiling. The BTS will create and implement a distributed database structure for NTAD that will allow access to individual NGDA databases by the database.</p> <p>1.1.2 The BTS will register the optimized NTAD NGDA WFSes on the Geospatial Platform/Clearinghouse.</p> <p>1.1.3 The BTS will develop a strategic plan for Spatial Analysis and visualization. This Strategic Plan will include a series of objectives relating to Stakeholder Engagement that will be used to market the WFS to the stakeholder community and encourage feedback and partnerships. Activities under these objectives will include but not limited to webinars, listening sessions, industry events, and employing Social Media.</p>			
Objective 1.2: Leverage the Geospatial Platform.				
Agency and/or Stakeholders Involved: USDOT				
Anticipated Outcome: Efficient, effective use of shared technology infrastructure to encourage and support better information sharing. Cost savings through shared geospatial investment planning.				
Actions <i>(Describe discrete activities)</i>	Milestones <i>(A significant change in development with associated date)</i>	Performance Indicators <i>(A metric to assess progress of the action)</i>	Action Responsibility <i>(Agency, individuals, and/or groups leading the action)</i>	Projected Completion Date <i>(FY)</i>
1.2.1 Publish the WFS for the Transportation Theme NGDA datasets to the Geospatial Platform	Publish WFS - December 2017	Number of published WFS on Geospatial Platform	BTS NTAD Manager	2018/Q2
1.2.2 Develop and maintain the Transportation Community pages on the Geospatial Platform	Update Transportation Subcommittee page after each monthly meeting	Number of page updates	Chair of the Transportation Subcommittee	Ongoing

1.2.3 Develop and maintain the NGDA Transportation Theme Community the Geospatial Platform	Update the NGDA Transportation Theme Community page as needed	Review content at least once a year	Chair of the Transportation Subcommittee	Ongoing
Agency and/or Stakeholder		Activity through FY 2018 Quarter 2		
USDOT BTS		1.2.1 The Bureau of Transportation Statistics will work with FGDC staff to publish the WFS for the Transportation Theme NGDA datasets to the Geospatial Platform/data.gov.		
USDOT BTS		1.2.2 The Bureau of Transportation Statistics and Chair of the Transportation Subcommittee will update the Transportation Subcommittee page after each monthly meeting, on the Geospatial Platform.		
USDOT BTS		1.2.3.2 The Bureau of Transportation Statistics will work with FGDC staff and Transportation Theme NGDA dataset managers to publish/maintain up to date metadata/metadata pages on data.gov.		
Goal 2: Ensure the Effective Development of the Transportation NGDA Datasets				
Objective 2.1: Continued development and support of the All Roads Dataset NGDA and its related Address Range-Feature Name Relationship File and the Address Ranges Relationship File NGDAs. Agency and/or Stakeholders Involved: FHWA & Census Anticipated Outcome: A single all roads network, with associated address ranges/points, that is used throughout the DOT and across the federal government and meets the requirements of its stakeholders; reduced duplication of effort; greater stakeholder involvement. Transition of the All Roads NGDA management from the Department of Commerce/Bureau of the Census (DOC/BOC) to DOT through the FHWA’s All Roads Network Of Linear-referenced Data (ARNOLD) program.				

Actions <i>(Describe discrete activities)</i>	Milestones <i>(A significant change in development with associated date)</i>	Performance Indicators <i>(A metric to assess progress of the action)</i>	Action Responsibility <i>(Agency, individuals, and/or groups leading the action)</i>	Projected Completion Date <i>(FY)</i>
2.1.1 Develop a strong partnership between DOT and the Department of Commerce/Bureau of the Census to ensure that data collected through FHWA's ARNOLD program can be utilized in the TIGER files	2.1.1.1 TIGER/ARNOLD work group forums	2.1.1.1 Number of meetings held	FGDC Transportation Subcommittee, FHWA HPMS/ARNOLD Program	2.1.1.1 2018/Q1
	2.1.1.2 Proposed ARNOLD attribute data requirements	2.1.1.2 Percent of proposed data requirements that have been reviewed and/or discussed		2.1.1.2 2018/Q1
	2.1.1.3 Final ARNOLD attribute data requirements	2.1.1.3 Percent of proposed data requirements that have been reviewed, discussed, and received feasibility concurrence (from both the Dept. of Commerce/Census Bureau and DOT)		2.1.1.3 2018/Q2
2.1.2 Work with stakeholders, particularly DOC/BOC, the National States Geographic Information Council, and the Next Generation 911 community, to develop a NGDA of address points	2.1.2.1 Regular meetings between DOT and Census 2.1.2.2 Meetings with NSGIC and NENA at the mid-year and annual NSGIC conferences	2.1.2.1 Number of meetings held 2.1.2.2 Attendance and presentations at the NSGIC conferences	GIO, FGDC Transportation Subcommittee, FHWA HPMS/ARNOLD Program	2.1.2.1 Ongoing 2.1.2.2 Ongoing
2.1.3 Continue to support the DOC/BOC as manager of the Address Range-	2.1.3.1 Regular meetings between DOT and Census	2.1.3.1 Number of meetings held	GIO, FGDC Transportation Subcommittee, FHWA	2.1.3.1 Ongoing

Feature Name Relationship File and the Address Ranges Relationship File NGDA.			HPMS/ARNOLD Program	
Agency and/or Stakeholder		Activity through FY 2017 Quarter 2		
FGDC Transportation Subcommittee	2.1.1.1 DOT hosted and Census participated in the February and March 2017 meetings of the TSC. – 2017/Q2 Hold recurring TIGER/ARNOLD work group forums (via the FGDC TSC’s “ARNOLD Team” meetings) - 2018/Q1			
FGDC Transportation Subcommittee	2.1.1.2 Review and discuss proposed ARNOLD attribute data requirements for TIGER program purposes - 2018/Q1			
FGDC Transportation Subcommittee	2.1.1.3 Assemble final ARNOLD attribute data requirements for TIGER program purposes - 2018/Q2			
GIO, FGDC Transportation Subcommittee, FHWA HPMS/ARNOLD Program	2.1.2.1 Hold quarterly meetings between Census and DOT. DOT and Census met 15 times during the reporting period to discuss and plan for the National Address Database (NAD) 2.1.2.2 DOT and Census participated in and gave NAD updates at the NSGIC 2016 Annual and 2017 Mid-year conferences			
GIO, FGDC Transportation Subcommittee, FHWA HPMS/ARNOLD Program	2.1.3.1 Hold quarterly meetings between Census and DOT. These files are not NGDAs. No further action will be taken			

Objective 2.2: Continued development and support of the Rail NGDA.

Agency and/or Stakeholders Involved: USDOT FRA

Anticipated Outcome: A single rail network that is used throughout the DOT and across the federal government and meets the requirements of its stakeholders; reduced duplication of effort; greater stakeholder involvement.

Actions <i>(Describe discrete activities)</i>	Milestones <i>(A significant change in development with associated date)</i>	Performance Indicators <i>(A metric to assess progress of the action)</i>	Action Responsibility <i>(Agency, individuals, and/or groups leading the action)</i>	Projected Completion Date <i>(FY / Quarter)</i>
2.2.1: Conflate existing rail networks from DOT/Federal Railroad Administration (FRA) and from the Department of Defense (DOD) to produce a single,	Completed	Published the North American Rail Network (NARN)	Federal Railroad Administration	2016/Q2

authoritative rail network NGDA Dataset managed by FRA				
2.2.2 Develop a Memo of Understanding (MOU) between FRA and the American Association of Railroads (AAR) that will ensure that FRA always has the most up-to-date rail data	<ul style="list-style-type: none"> - Development of the MOU - Approval and signatures from all parties 	MOU will be published on FRA's website	Federal Railroad Administration	2018/Q2
2.2.3 Work with stakeholders, particularly DOD, AAR, and the National Emergency Numbers Association, to ensure that all stakeholder needs are met	<ul style="list-style-type: none"> - Professional presentations on the status of the NARN - Outreach with stakeholders on the current improvements and enhancements - Ongoing 	<ul style="list-style-type: none"> - Professional presentations on the status of the NARN - Attending meetings and professional conferences 	Federal Railroad Administration	Ongoing
Agency and/or Stakeholder	Activity through FY 2017 Quarter 2			
Federal Railroad Administration & Association of American Railroads	2.2.2: Meetings with the Technical Advisory Group of the Association of American Railroads (AAR) GIS committee to finalize the language of the MOU. 2017/Q2			
Federal Railroad Administration, Association of American Railroads, and Railinc Corp.	2.2.2: Signing of the MOU by all parties. 2018/Q2			
Federal Railroad Administration	2.2.3: Working with Stakeholders on the current development of the North American Rail Network (NARN). Continued to publicize the NARN by presenting the current enhancements of the data and any developments underway. Participate in meetings, conferences, and summits to work with Stakeholders. Ongoing			

Objective 2.3: Continued development and support of the Airports and Runways NGDAs.

Agency and/or Stakeholders Involved: FAA

Anticipated Outcome: A single set of airport and runway data that is used throughout the DOT and across the federal government and meets the requirements of its stakeholders; reduced duplication of effort; greater stakeholder involvement.

Actions <i>(Describe discrete activities)</i>	Milestones <i>(A significant change in development with associated date)</i>	Performance Indicators <i>(A metric to assess progress of the action)</i>	Action Responsibility <i>(Agency, individuals, and/or groups leading the action)</i>	Projected Completion Date <i>(FY / Quarter)</i>
2.3.1 Examine all of the airport information contained in the National Air Space (NAS) and determine which parts are good candidates to be included in the NGDA	Development /Implementation of the Airports Authoritative Source	Effort is on schedule. Availability date is only 9 months out therefore no interim milestones are identified	Program Management Office development for AJV-5 and Airports Office under FAA's NavLean initiative	Jan 2018
2.3.2 Enact changes to improve Federal Aviation Administration data collection and data utilization workflows and enhance singular distribution mechanisms that allow users to access and update authoritative aeronautical information	Aeronautical Information Management Modernization Segment 2 & 3 (AIMM S2 & S3) Segment 2 is establishing the Aeronautical Common Service (ACS) with data access through SWIM	Jan 2018 In addition to the Airport Authoritative Source (AAS) the following authoritative sources also become available: <ul style="list-style-type: none"> • Obstacle Authoritative Source (OAS) • Federal NOTAM System • Special Use Airspace (SUA) • Navaid Authoritative Source (NAVAS) 	Program Management Office development for AJV-5 and FAA	2019-2024

2.3.3 Establish a web interface for external users outside the Federal Aviation Administration system to obtain needed aeronautical information	External Data Access Initiative (EDAi) has established open data website https://www.faa.gov/got_data/aero_data/	Complete	AJV-5	Jun 2016
Agency and/or Stakeholder	Activity through FY 2017 Quarter 2			
DOT FAA	2.3.1 2018, Q1 The FAA Program Management Office will dedicate resources to create, update and maintain Open Geospatial Consortium (OGC) Web Feature Services (WFS) for airport feature data currently held within the NASR data resource as those data are relocated to the Airport Authoritative Source (AAS) within the NAVLean initiative. The PMO will migrate, validate, and make available airport data by exposing OGC standard services from the AAS.			
DOT FAA	2.3.2 2018, Q1 The FAA Program Management Office is currently in the test and evaluation phase of release 3 within the Aeronautical Information Management Modernization Segment 2 (AIMMS2) acquisition program. The PMO will deploy release 3 of the AIMMS3 in Q1, 2018 which delivers WFS and WMS as part of the Aeronautical Common Service, a resource for integrating and exposing aeronautical data to System Wide Information Management (SWIM) consumers using OGC service standards and the internationally recognized aeronautical information exchange standard, AIXM. Data modeled in AIXM and exposed through WFS and WMS services include Notices to Airmen (NOTAMs), schedule and airspace feature information for Special Activity Airspace (SAA), obstacle data from the obstacle authoritative source, and other reference data from the NASR aeronautical data resource. These services will be registered on the FAA SWIM Registry and discoverable to SWIM "On-ramped" consumers. The AIMMS3 program is still in planning and will reach its investment analysis readiness decision (IARD) milestone in Q4, 2017. Development and deployment activities and schedule have not been finalized for the program. We will be able to better define these milestones and deliverables once AIMMS3 is approved to enter the Investment Analysis phase of our Acquisition Management System at IARD.			

Table 5. Theme Implementation Plan.